

ARMOR & Mobility

EO/IR

www.tacticaldefensemedia.com | November 2011

Special Section: EO/IR Tech Recap



Commander's Corner

BG N. Lee S. Price

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Full Spectrum Mission C2

A&M brings readers an exclusive interview with BG N. Lee S. Price, PEO C3T, Aberdeen Proving Ground, MD, and about efforts her office is making to provide state-of-the-art integrated networking technology to the tactical force.

BG N. Lee S. Price was interviewed by A&M Editor Kevin Hunter

A&M: Please talk about the Program Executive Office Command, Control and Communication-Tactical (PEO C3T) mission and role in the Army and Department of Defense.

BG Price: U.S. Army PEO C3T is an innovative team providing the networked mission command solutions that support the full spectrum of military operations throughout the world. That network has many parts: the wide area network (WAN), satellite systems, radios, mission command applications, computers, servers, generators, communications security (COMSEC) devices, and the data products that "glue" it all together. The PEO C3T develops, acquires and fields to all Army units a wide range of these products, which allow commanders and soldiers on the battlefield to share information and collaborate more effectively, increasing mission success and saving lives. Our field support team provides on-site training and troubleshooting for these systems worldwide – ensuring we meet our top mission priority of supporting deployed forces.

We are also the tactical network integrators. Integration is important for obvious reasons: an individual radio or software application may be state-of-the-art, but unless it works seamlessly with the rest of the systems comprising the network, it isn't worth much to the soldier. Asking troops to integrate these puzzle pieces when they are in theater is also unacceptable. To prevent this, PEO C3T engineers approach the network as a system-of-systems. They connect the dots of waveforms, interfaces, architectures and data products, not only for PEO C3T systems, but also those fielded by other organizations. That way, when each piece of networked kit is delivered to the soldier, it functions seamlessly as part of the whole.



BG N. Lee S. Price

Program Executive Officer

PEO Command, Control, Communications - Tactical (C3T)

Aberdeen Proving Ground, MD

We also provide a wide range of Mission Command capabilities, such as those soldiers use to track one another's and the enemy's whereabouts over a topographical map, share intelligence with other commanders, plan and coordinate fires, track and coordinate logistics and view photos and data of high-value targets in theater. Since none of these systems can function without power, Project Manager Mobile Electric Power (PM MEP) provides power generation to enable these capabilities.

The need for an integrated, interoperable system-of-systems is driving the Army's modernization strategy for the current and future network. PEO C3T is aligned with the priorities of Army G-3/5/7, Chief Information Officer/G-6, and Assistant Secretary of the Army for Acquisition, Logistics and Technology ASA(ALT) to enhance the tactical network. With those organizations and others, we are deeply engaged in developing the Common Operating Environment (COE), which establishes a framework and set of technical standards that industry will adhere to as they develop networked capabilities. It will create a "plug-and-play" environment, ensuring new solutions are secure and interoperable with existing systems. This approach will allow the Army to take better advantage of rapid advances in information technology to meet soldiers' evolving operational needs.

Another big change in Army network modernization is the "capability set" equipping method. Described by senior leaders as "buy less, more often," it calls for integrating and deploying networked technologies as they reach maturity, rather than fielding on their own independent timelines. For Capability Set

13/14, slated to be fielded to eight Brigade Combat Teams beginning in 2013, PEO C3T systems will provide much greater bandwidth to transmit voice, video and data across the battlefield, as well as bring situational awareness and mission command information down to the dismounted soldier.

As the tactical network grows in scale and complexity, PEO C3T will continue to play a central role in building, integrating and supporting its diverse parts.

A&M: How has PEO C3T maintained its support to theater during its transformation to Aberdeen Proving Ground (APG), MD?

BG Price: Our move from Fort Monmouth, NJ to APG was transparent to the soldiers in theater thanks to the dedication and commitment of our own workforce and the support of our many partners in the C4ISR Center of Excellence, the Army Corps of Engineers, our friends in government, industry and the Maryland and New Jersey communities.

Unit Set Fielding (USF) has helped set the conditions for success in maintaining theater support during our transition. The maturity of the USF process, which we have been executing since 2005,

allowed us to continue our coordinated planning of fielding, training and support to units, despite the turbulence caused by the move to Maryland. Throughout the physical relocation of PEO C3T's headquarters and project management offices, we remained committed to providing the superior quality support that soldiers have come to rely on from PEO C3T.

We continued to deploy digital systems engineers and field service representatives into theater to provide direct technical support. We also maintained an extensive network of reach-back support, including a 24/7 help desk. This support was continuously available to soldiers, as well as civilian and contractor support personnel during our transition. The combination of sound processes and commitment to supporting soldiers, in spite of physical location of the workforce, were certainly fundamental to our success.

A&M: How has Product Manager Warfighter Information Network-Tactical (WIN-T) Increment 2 used APG to prepare for its future Initial Operational Test and Evaluation (IOT&E) in April 2012?

BG Price: We are eager to deploy the second increment of WIN-T, which will enhance battlefield communications with a self-forming,



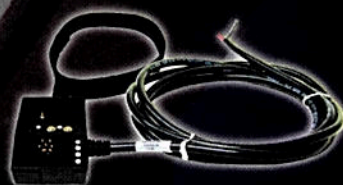
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self-healing network that provides on-the-move connectivity all the way down to the company level. WIN-T Increment 2 recently cleared another key hurdle on its path to the field, wrapping up its major developmental test leading to the upcoming Initial Operational Test and Evaluation (IOT&E) and fielding.

For the Production Qualification Test-Government (PQT-G) in July and August, we utilized the Army Test and Evaluation Command's Aberdeen Test Center (ATC). Hardware and software was installed in tactical vehicles spread out over the range, together comprising the largest instrumented test ever held at the ATC. Testers collected substantial amounts of data based on different mission scenarios, assessing various attributes of the network including throughput, message delivery time, reliability, and self-healing abilities during network blockages. The test also stressed the network up to eight times its maximum capacity to determine whether the most important messages – such as Medevac requests and Call for Fire – were delivered ahead of lower-precedence traffic.

The information collected during the PQT-G gave us clear, measurable metrics and a solid baseline understanding of technical performance prior to placing the equipment in soldiers' hands. WIN-T Increment 2 assets are now at White Sands Missile Range, NM, where the 2nd Brigade, 1st Armored Division (2/1 AD) will informally evaluate it during the Network Integrated Evaluation (NIE) 12.1 in October-November. The formal fielding, training and IOT&E will take place during NIE 12.2 in April 2012. Additional fielding will follow in fiscal year 2013.

A&M: How have PEO C3T's efforts to build and integrate the Network Integrated Evaluation (NIE) network supported NIE's holistic objectives?

BG Price: The Network Integrated Evaluations (NIEs) are the fulfillment of a vision articulated by Gen. Peter Chiarelli, the Vice Chief of Staff of the Army, to enhance Army network modernization. He wanted the Army to unite its acquisition, doctrine and test communities in the same place, with the same brigade, in order to integrate and evaluate networked technologies in a realistic operational environment.

The NIEs place both official Army program of record capabilities and other non-program of record technologies in soldiers' hands simultaneously and earlier in the evaluation cycle, so we can more rapidly incorporate user feedback. This will ultimately lead to quicker fielding of integrated solutions that represent the latest technology available. As the network lead for the NIEs, PEO C3T integrates each of the mission command solutions that reside on the overarching network, so they can function together seamlessly for the soldiers trying them out.

The NIE events are being held twice a year at White Sands Missile Range, NM, and Ft. Bliss, TX, which gives both government and industry a predictable timeline for inserting new technologies into the network. This faster timeline has several implications for PEO C3T, which not only supplies systems such as WIN-T and Force

XXI Battle Command Brigade and Below/Blue Force Tracking (FBCB2/BFT) for the evaluations, but also builds the data products required to initialize each system on the tactical network.


You might think of data products as the yellow pages for the tactical network. The separate applications of the network are "glued" together by unique numbers and codes, which are provided and managed through data products. Without data products, troops lack the fidelity of information they require to know the details of the formations, intelligence and other critical information to plan and coordinate the battle.

Think about the blue dots that appear on FBCB2 maps to indicate the locations of friendly forces. When a user clicks on one of those dots, the system relies on data products to identify which unit the dot represents, and to enable the two users to communicate via text messages.


Multiply that scenario by hundreds of vehicles and more than 50 different systems under evaluation at the upcoming NIE, and you get a sense of how crucial data products are to making this whole concept work.

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Typically, it takes 12 to 15 weeks to build the type of data products required for a unit such as the 2/1 AD. To support the speed and goals of twice-annual NIEs, our Product Director Tactical Network Initialization (PD TNI), to which data products is assigned, has compressed that timeline into 8 to 12 weeks, allowing the NIE community to begin the initialization process for an on-time event.

For the past NIE 11.2 and upcoming NIE 12.1, PD TNI ensured that the initialization requirements of all the systems participating were captured and applied to the data products produced for the event. The TNI team also shaped the data products to allow for flexibility, recognizing that the list of systems participating can be fluid.

PEO C3T continues to lay the groundwork for successful NIE events by delivering comprehensive network configuration, routing and Internet protocol information; integration interfaces between various waveforms and systems; and other key components of the network architecture. Our field support representatives are also assisting the 2/1 AD with troubleshooting and over-the-shoulder training.

A&M: How are PEO C3T's technologies addressing tactical challenges on today's asymmetric battlefield?

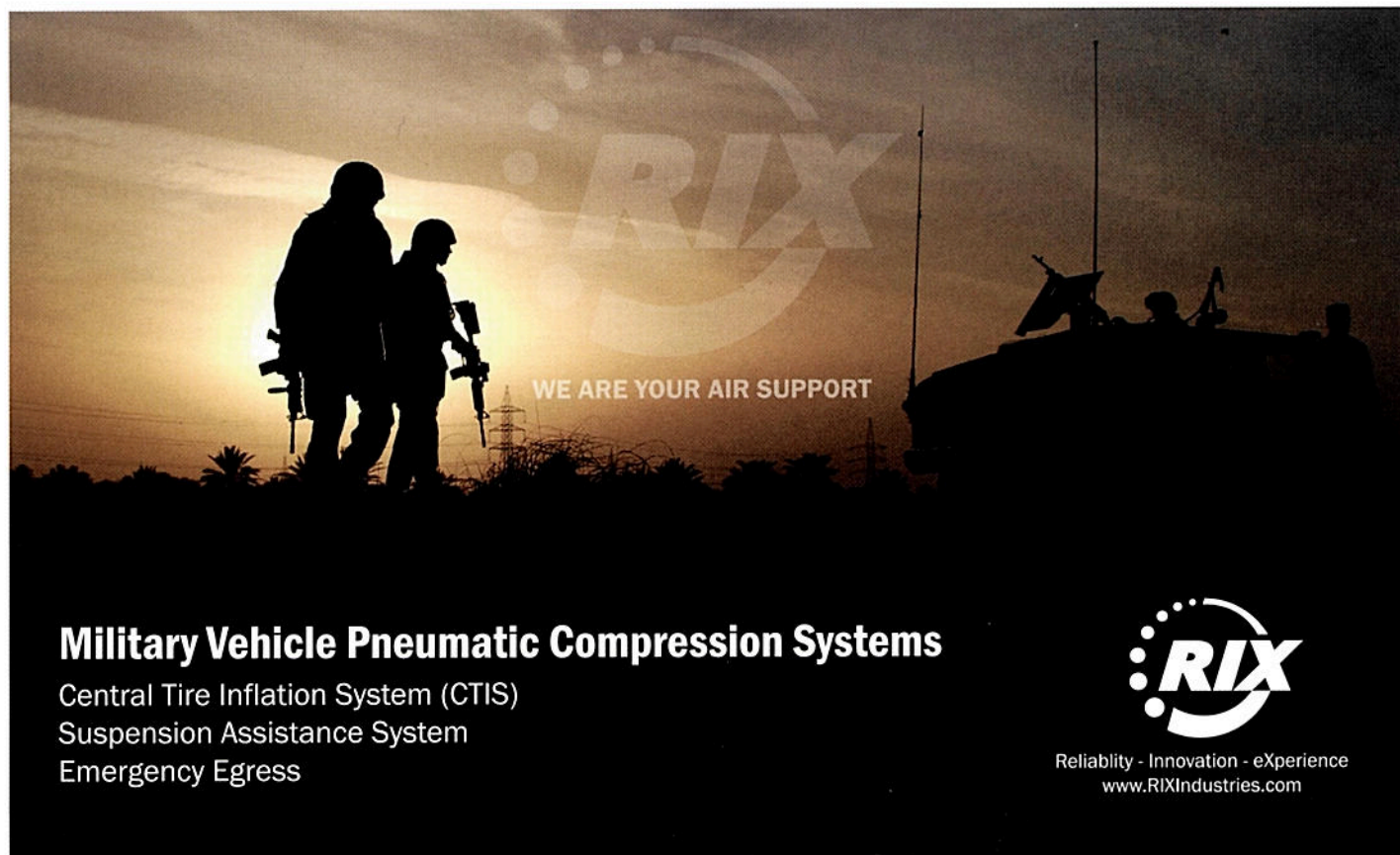
BG Price: Operations in Iraq and Afghanistan have taught us that we can best gather intelligence from soldiers in small units, who send this information up to their commanders at higher echelons.

The hybrid of celestial and terrestrial communications has already expanded the soldier's communications reach to greater edges of the battle space. This global network also allows us to command and control forces over vast distances and coordinate fires from afar. These highly reliable communications systems have made distance and terrain less of a limiter.

We'll continue to refine and enhance these capabilities as they are tested in terrains similar to Afghanistan and fielded to theater. For example, further efforts to integrate terrestrial waveforms and radios, and the fielding of WIN-T Increment 2, will allow users of Command Post of the Future, also known as Mission Command Workstation, to collaborate at unprecedented levels. In the future, this system, now used only at the battalion level and above, may also be used at the company level. Bringing data to this level will empower the company commander to make critical decisions at the edge of the battlefield, while knowing that his commander is aware of the situation on the ground.

A&M: How is PEO C3T's technology enhancing collaboration in the joint and coalition environment?

BG Price: We have begun to field the next generation of FBCB2, known as Joint Capabilities Release (JCR) and interoperable with the Marine Corps. In the past, it was difficult for the Army and Marines to communicate in real time because they operated on different radio frequencies. So if you came within range of another service's weapon systems, you were in danger of fratricide, unless there was serious coordination ahead of time.



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Soldiers learn about the satellite communications backbone fielded by PEO C3T's Project Manager Warfighter Information Network-Tactical (WIN-T). (Army photo)

With the digital capabilities of FBCB2 JCR, you're able to see where all of the friendly forces are, regardless of service or unit, and you're able to communicate with all of them via text messages and graphics. JCR also provides warfighters with a faster satellite network, secure data encryption and advanced mapping kits. Joint Battle Command-Platform (JBC-P), which will replace JCR in Capability Set 13/14, will include handheld devices to empower troops at the lowest echelons with the same BFT information that is currently only available inside vehicles and command posts.

From a coalition perspective, PEO C3T continues to support the Afghan Mission Network (AMN). AMN is a key effort between our organization, PEO Intelligence, Electronic Warfare & Sensors (IEW&S), the Army G-3 office and U.S. Central Command J-2/J-3/J-6 to bring coalition data sharing to Afghanistan. From their respective secure networks, and at their individual discretion, separate coalition forces can now share data, situational awareness and commander's intent across the battlefield on a centralized network.

The focus is now on extending the Afghan Mission Network to our next deployers. PEO C3T is engaged with the Combat Training Center Division, PEO Simulation, Training and Implementation and the G-3 to further enhance pre-deployment training on the U.S. component of the network, known as the Combined Enterprise Regional Information Exchange System (CENTRIXS) – International Security Assistance Force (ISAF), or CX-I. An enhanced presence and emphasis on CX-I in the United States will allow connectivity to the live network from CONUS, so full mission rehearsal exercises can be conducted on the CX-I environment. They can work their battle plans from home station, which will

decrease the learning curve for units when they arrive in Afghanistan.

For the CX-I effort, PEOs C3T and IEW&S received the 2010 David Packard Award for Acquisition Excellence, the highest award given in the acquisition community.

A&M: What can industry do to enhance its partnership with the military in bringing state-of-the-art capabilities to soldiers?

BG Price: My first thought is that corporations should steer away from the practice of developing self-dependent pieces of kit. For example, we can all benefit from a modern developed with an open source architecture, friendly

for integration with other vendors' capabilities.

A glimpse into technology corporations' long-term roadmaps will be beneficial to both of us. This will keep us in tune with what industry plans to deliver, so we are ready to receive capabilities as they mature. Today, we sometimes over plan, so we can prepare for certain capabilities not being there when we need to integrate them. In some cases, we are unaware that the capabilities are actually ready. Advance planning will allow DoD to better incorporate commercial-off-the-shelf (COTS) equipment as it matures. We can develop requirements for use before we receive capabilities and adopt them as soon as they are available.

In today's budget environment, we need to leverage every partnership possible for enhanced efficiency. With industry's help, the Advanced Medium Mobile Power Sources (AMMPS) generators we are preparing to field to Afghanistan will be 21 percent more fuel-efficient on average than the currently deployed Tactical Quiet Generators. The 300,000 gallons of fuel per month AMMPS will save will bring immense cost savings and lessen the number of trips fuel convoys make across the hazardous battlefield. PM MEP's efficiency is a result of its partnership with industry and the testing and R&D communities.

From our new headquarters located at APG, MD, PEO C3T will continue to seek new partnerships to enhance support to our number one priority, the deployed soldier.

More info: www.peoc3t.army.mil